

Community TIGER

A Collaborative Project

Census Bureau
Community Addressing Conference
Leesburg, VA

April 18, 2013



U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU

MAF/TIGER Introduction

- MAF – Master Address File
 - An inventory of living quarters
 - Contains
 - Mailing Address, if one exists
 - Descriptive Address, when no city-style address exists
 - Census Geographic Location
 - Source and History data

MAF/TIGER Introduction

- TIGER - Topologically Integrated Geographic Encoding and Referencing System
 - A digital map of US, Puerto Rico, & Island Areas
 - Contains
 - Roads (Streets), Rail, Hydro
 - Geographic Entity Boundaries
 - Housing Unit Locations
 - Address Ranges and Zip codes
 - Key Geographic Locations

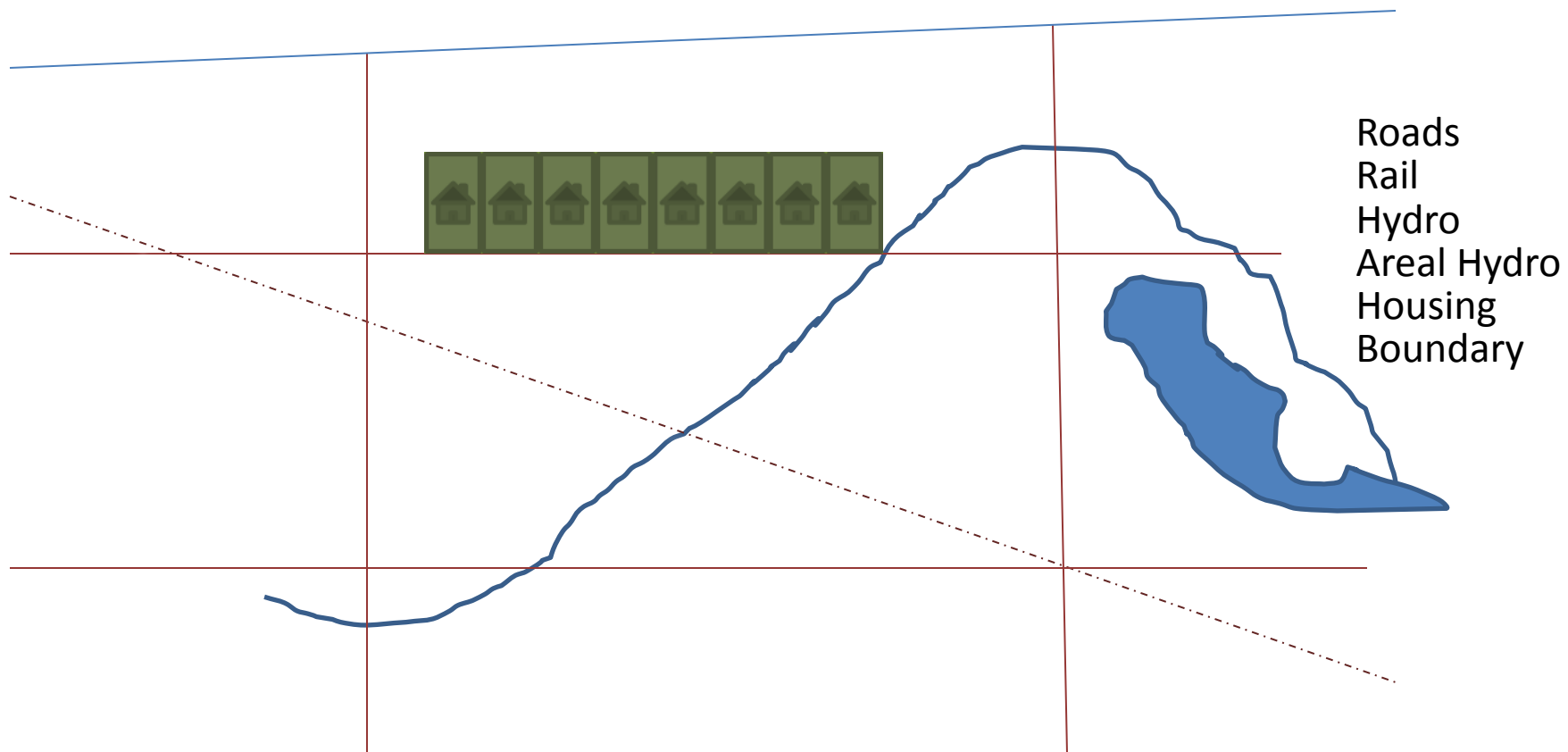
MAF/TIGER

- A national resource, wide public use
- Authoritative source for legal and statistical boundaries
- Many Censuses and Surveys rely on MAF for address frame; results have implications
- Need to keep MAF and TIGER integrated, current and of high quality
- GSS Initiative and Targeted Address Canvassing

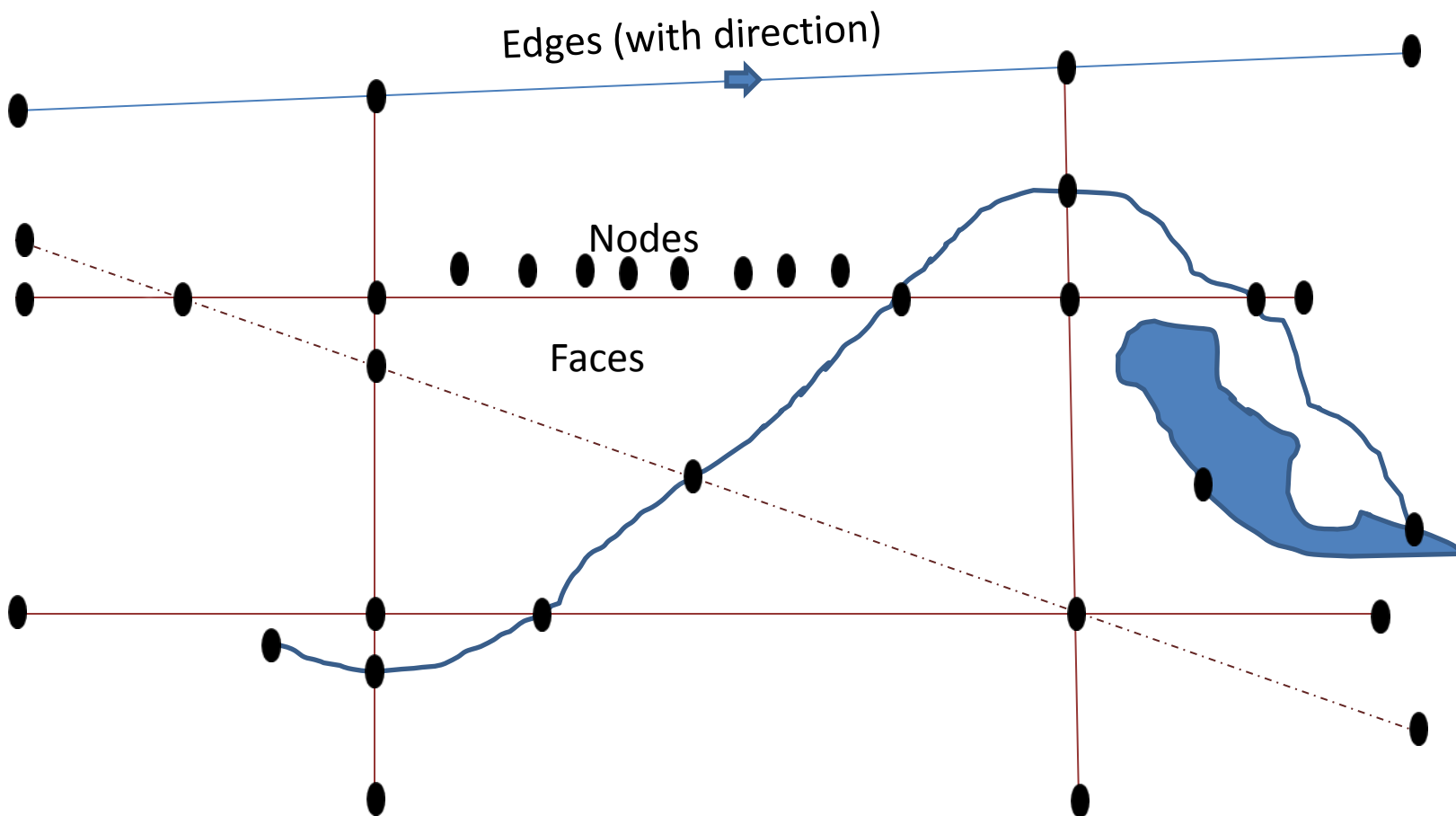
MAF/TIGER Environment

- Oracle Spatial (Topology Data Model)
- Persistent topology
- Business Rules (BRE)
- Delayed Calculations
- Continuous updates (interactive & batch)
- Interactive system GATRES
 - 3 tier architecture, based on Acquis ADE (Map Viewer technology)
- ArcGIS platform
- MAF Updates (Partner, DSF Refresh, Geocoding)
- Benchmarks, products

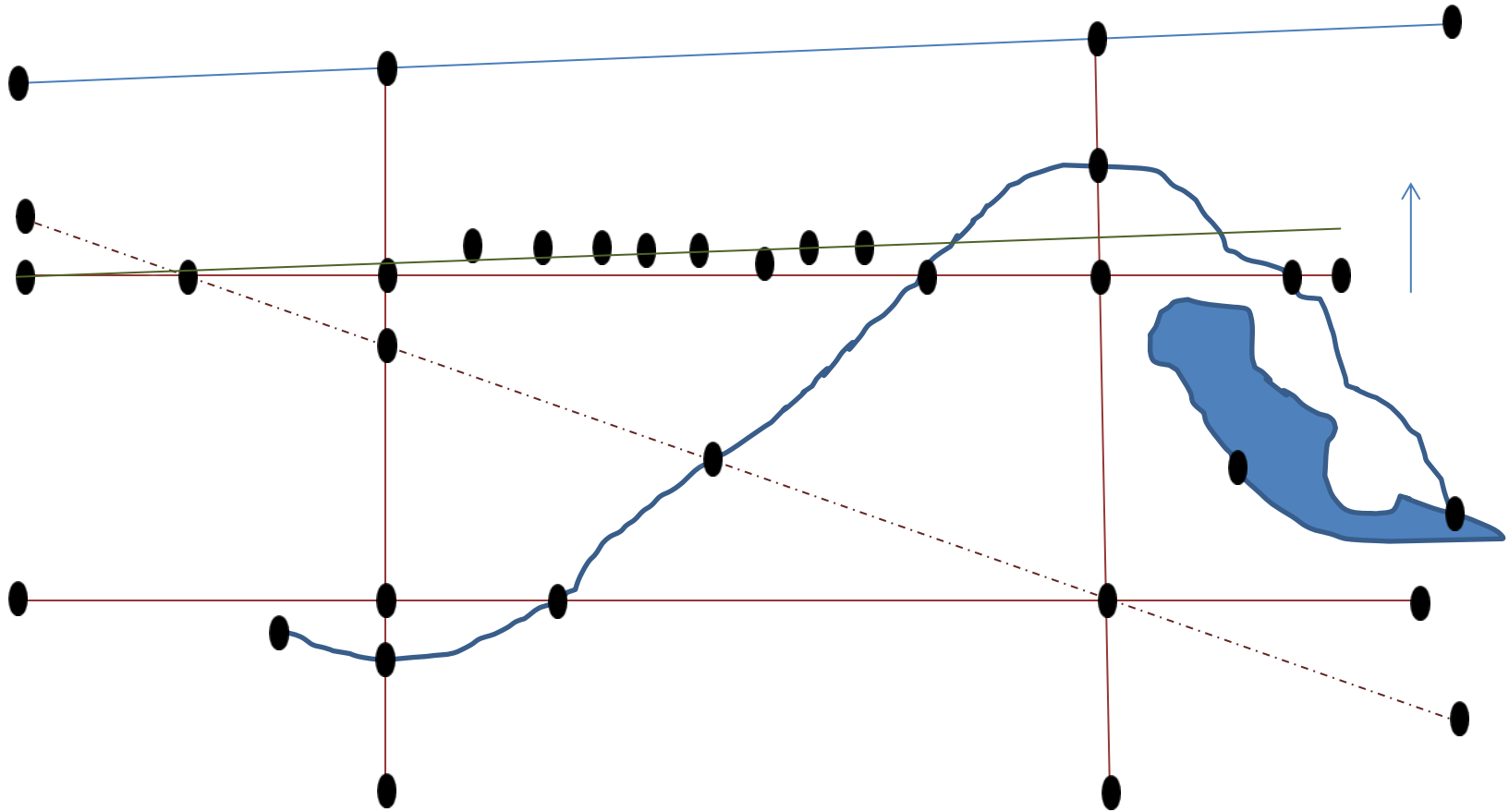
Feature Management in Layers



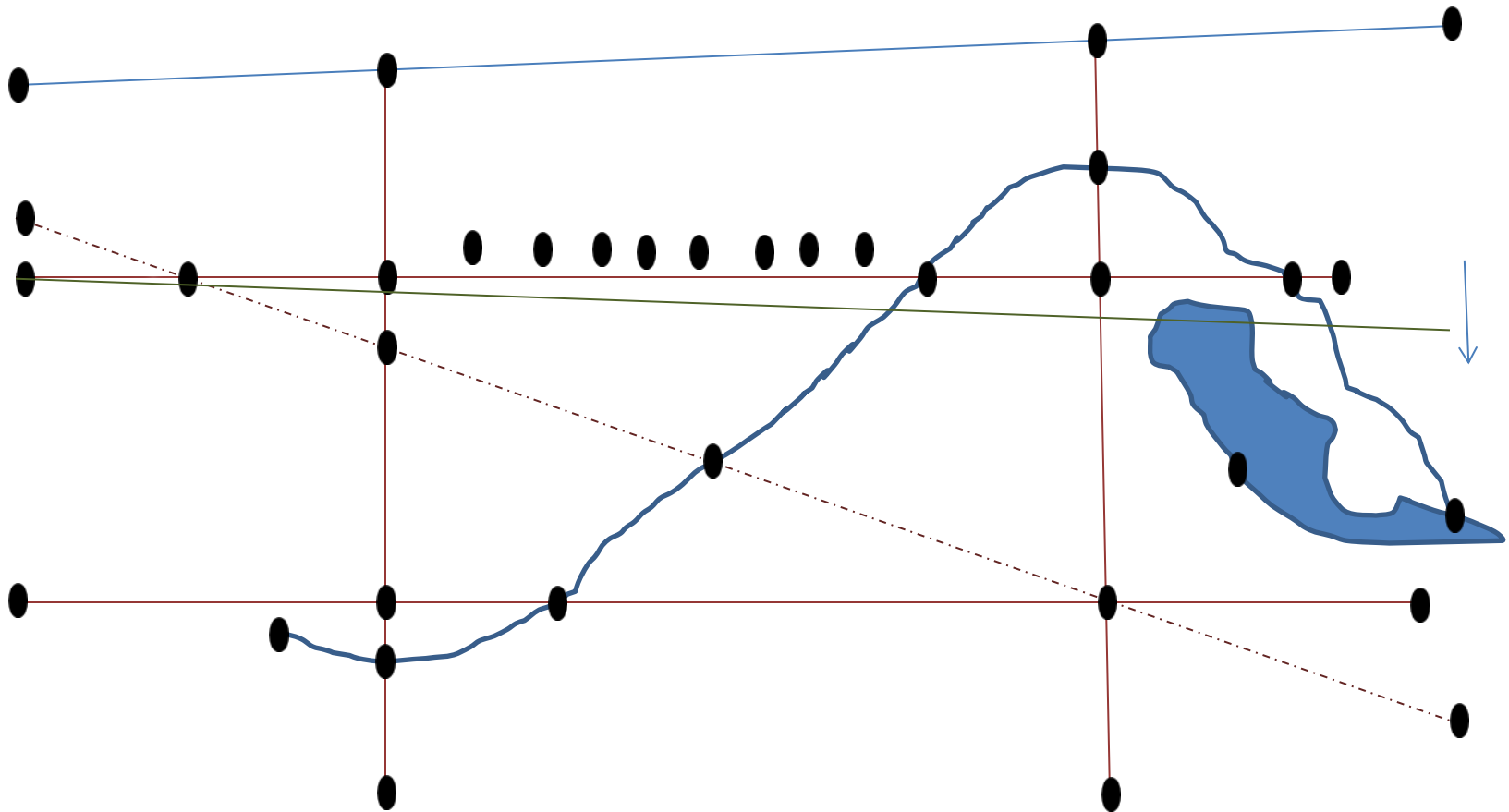
Topological Representation



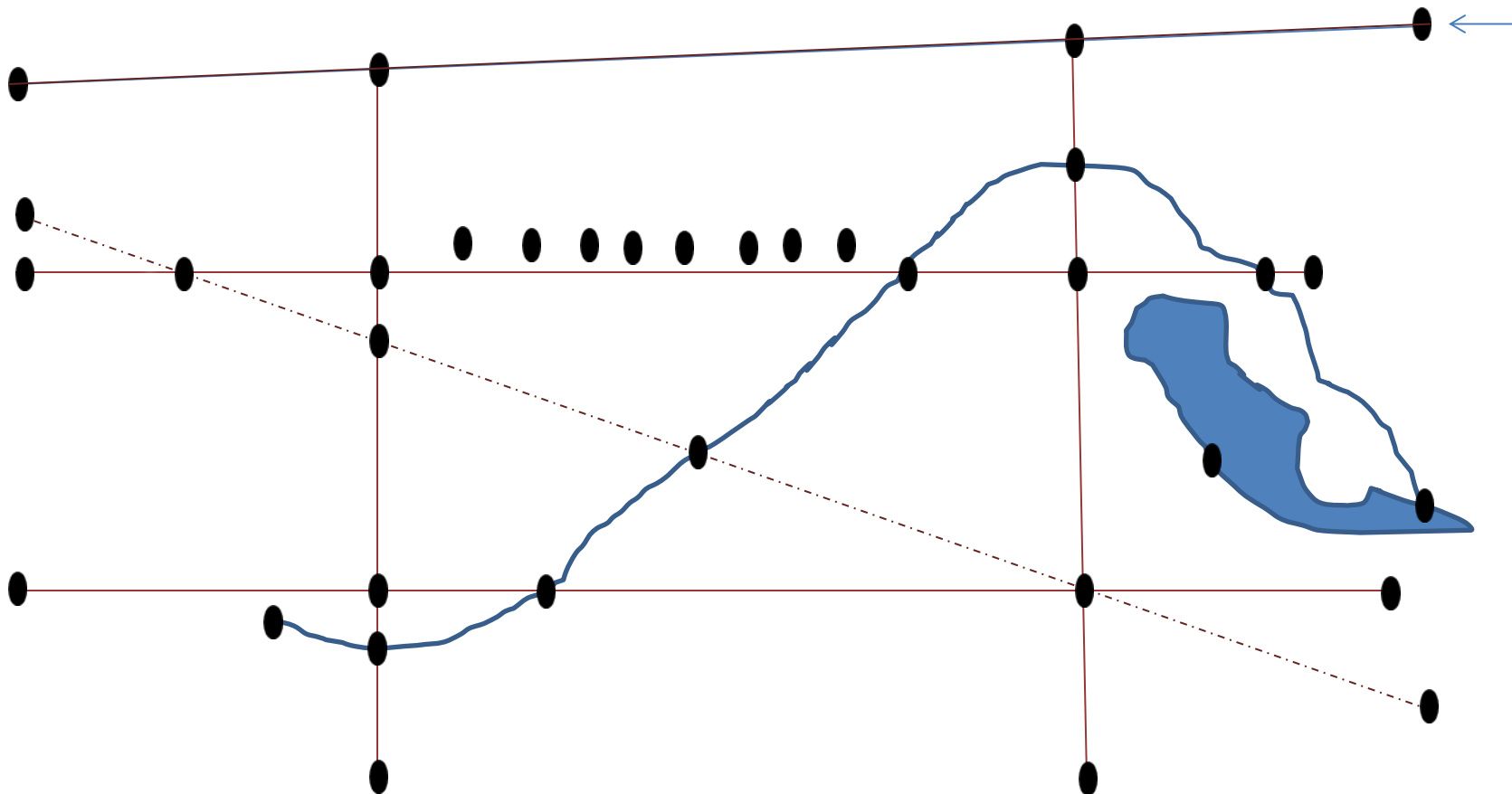
Road Change - 1



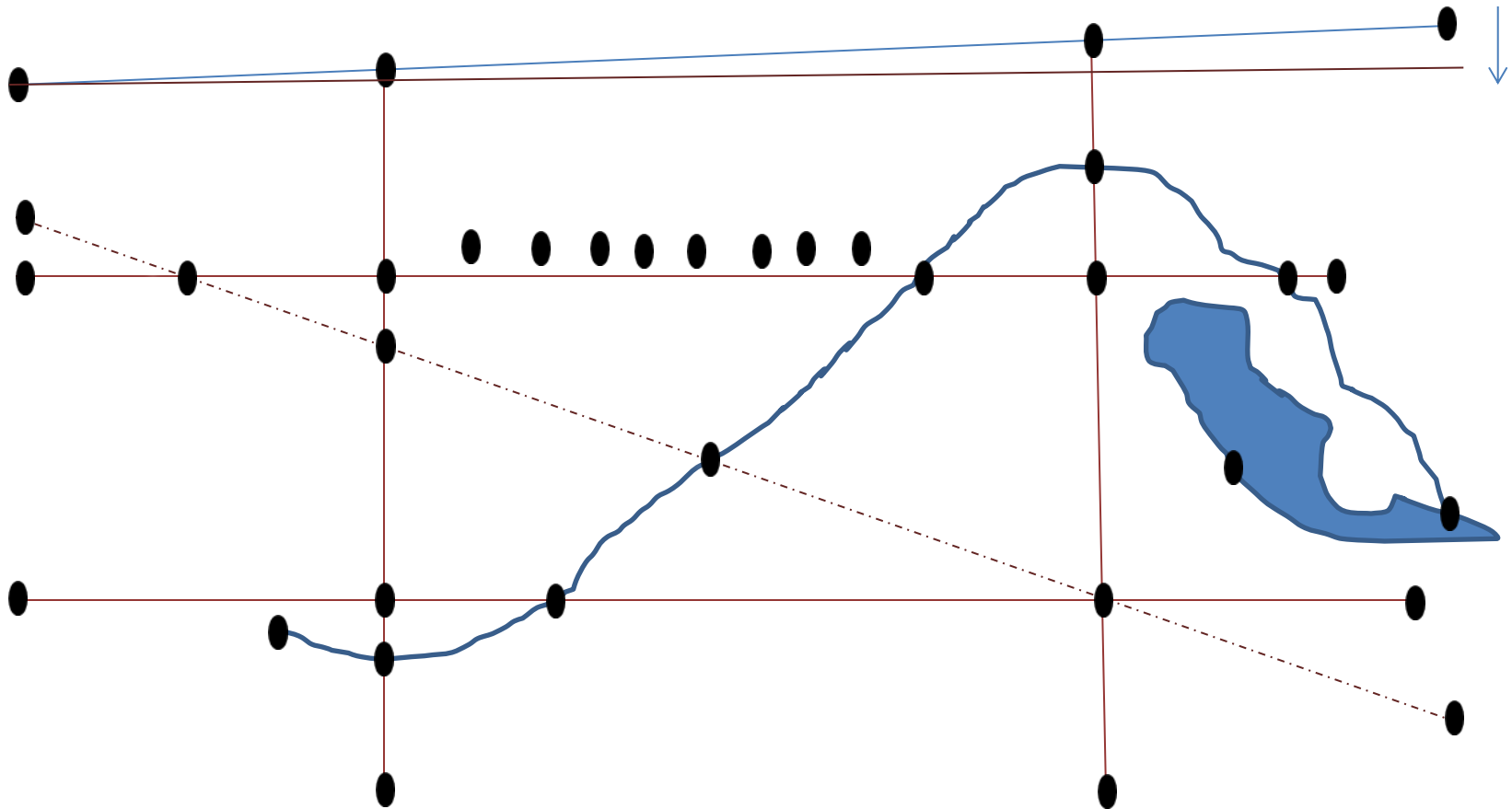
Road Change - 2



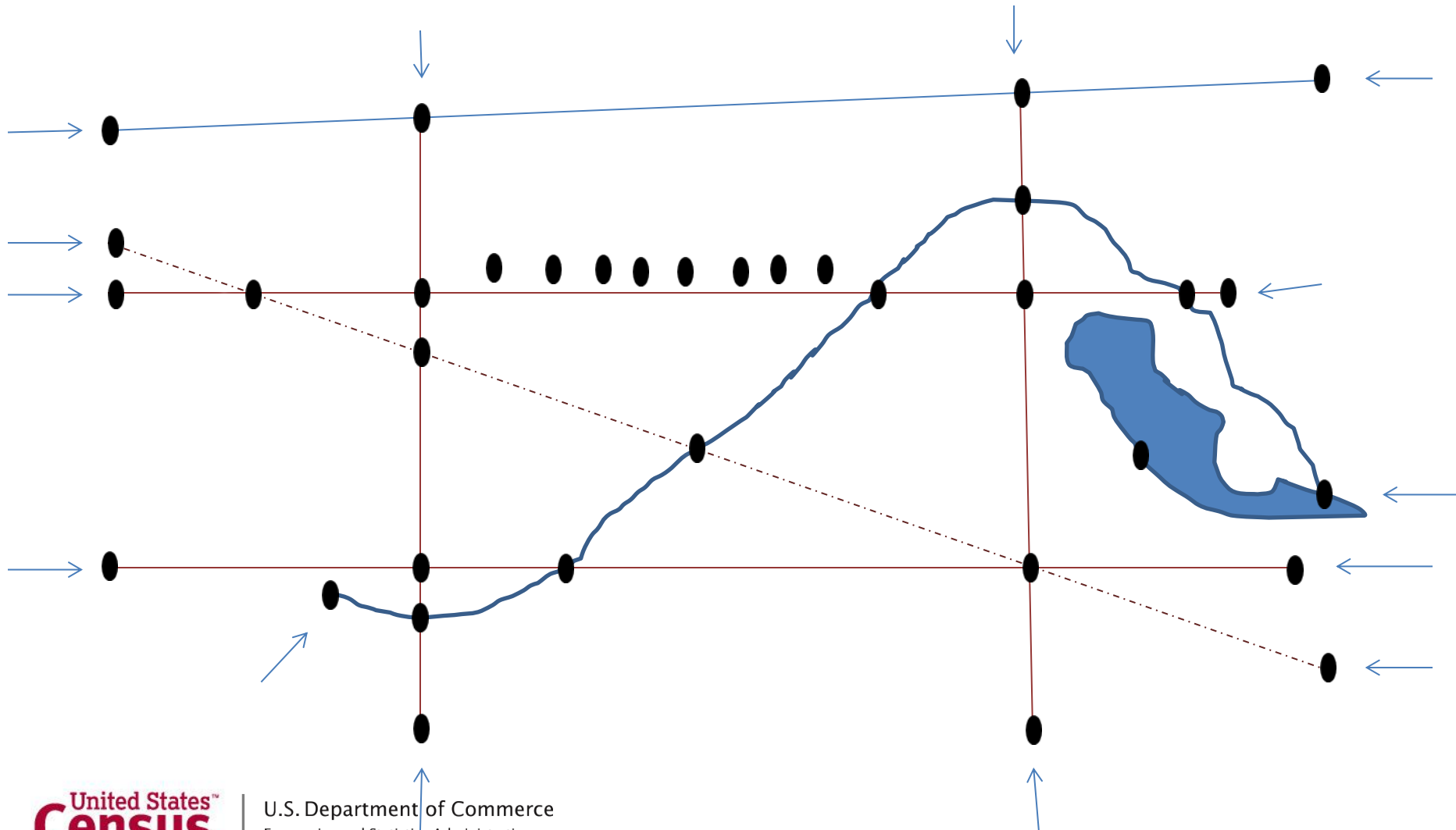
Boundary also a road



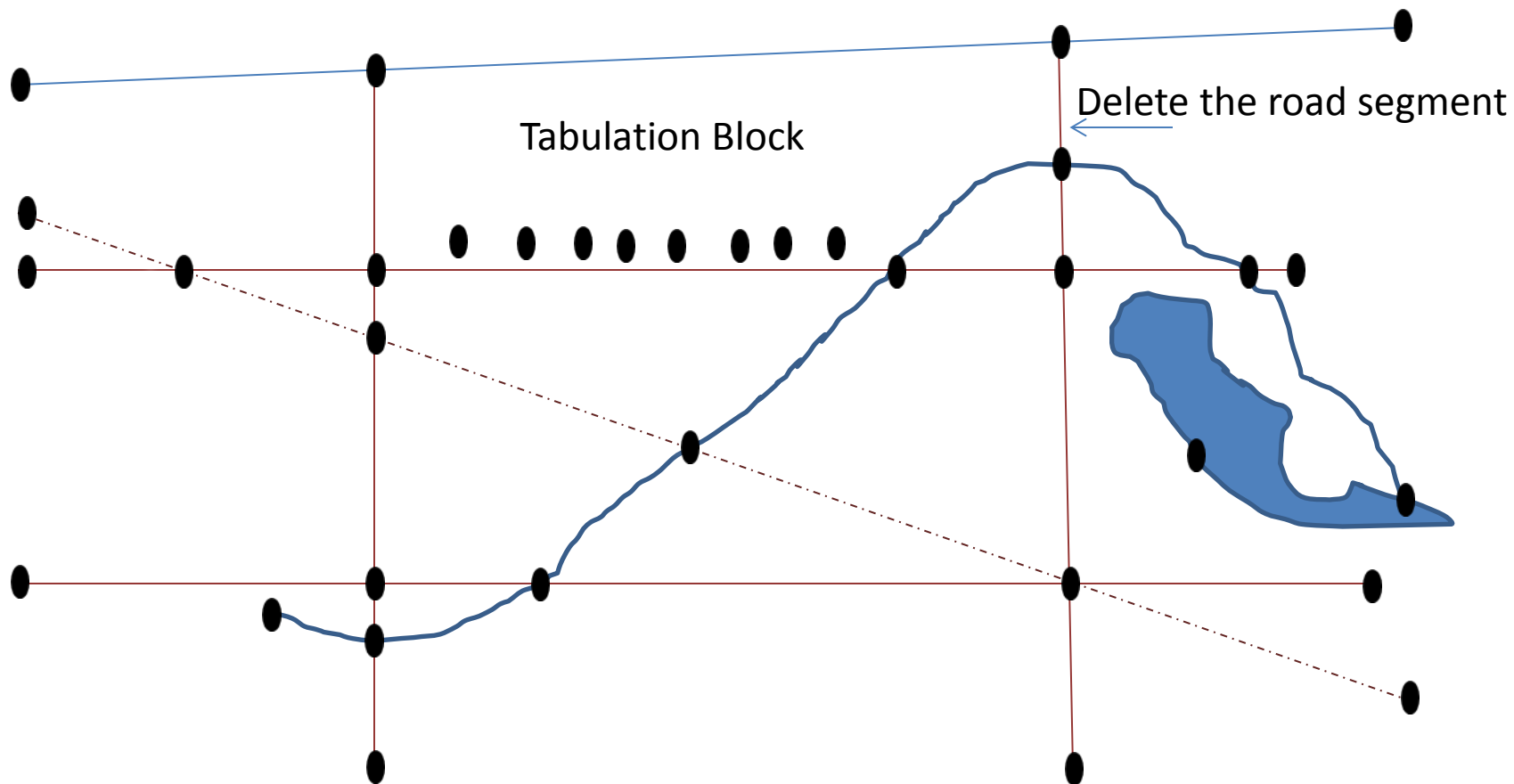
Should boundary move with road?



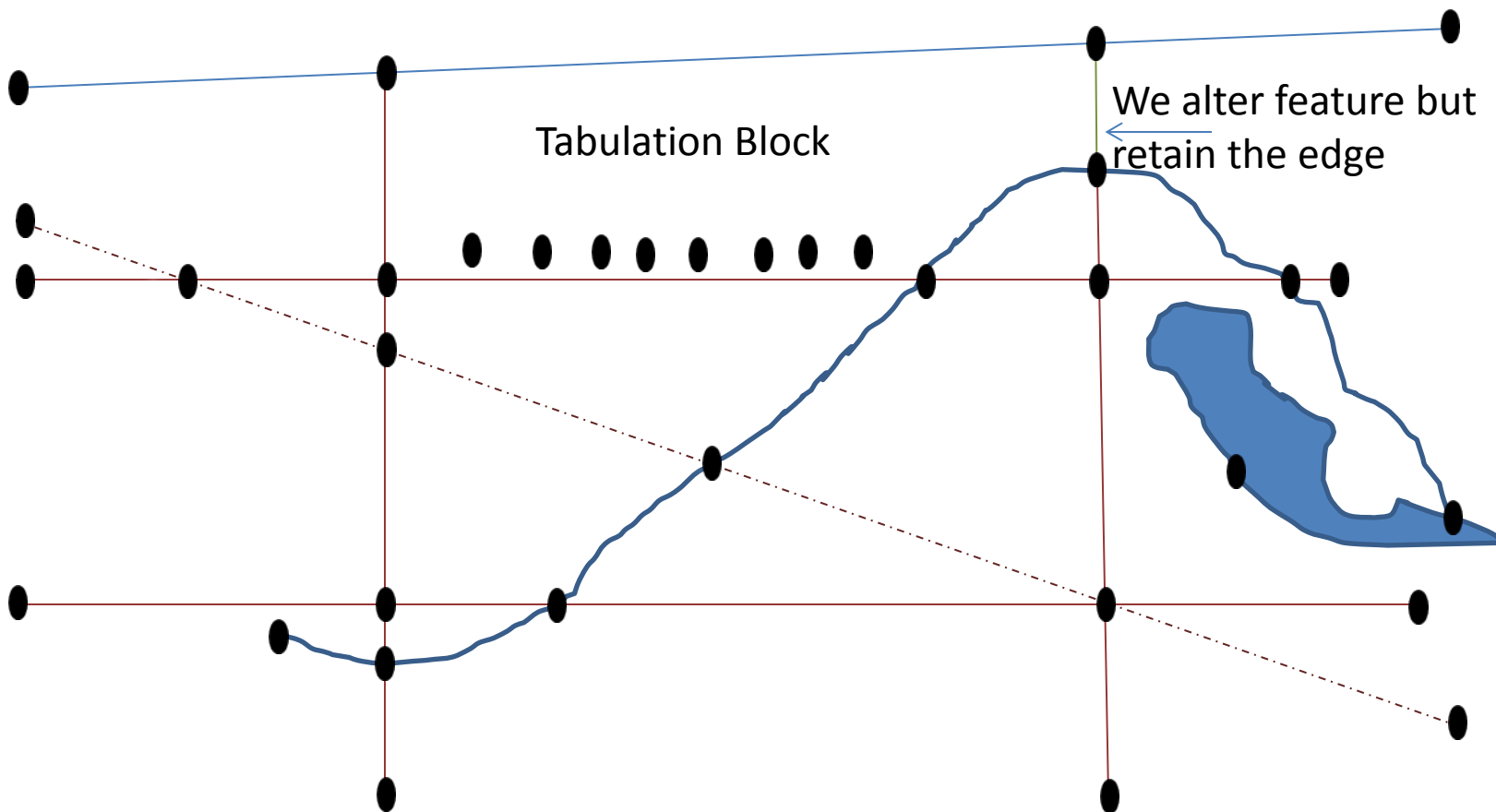
Edge Matching



Preserve blocks



Preserve blocks



How to keep MTDB current and of high quality?

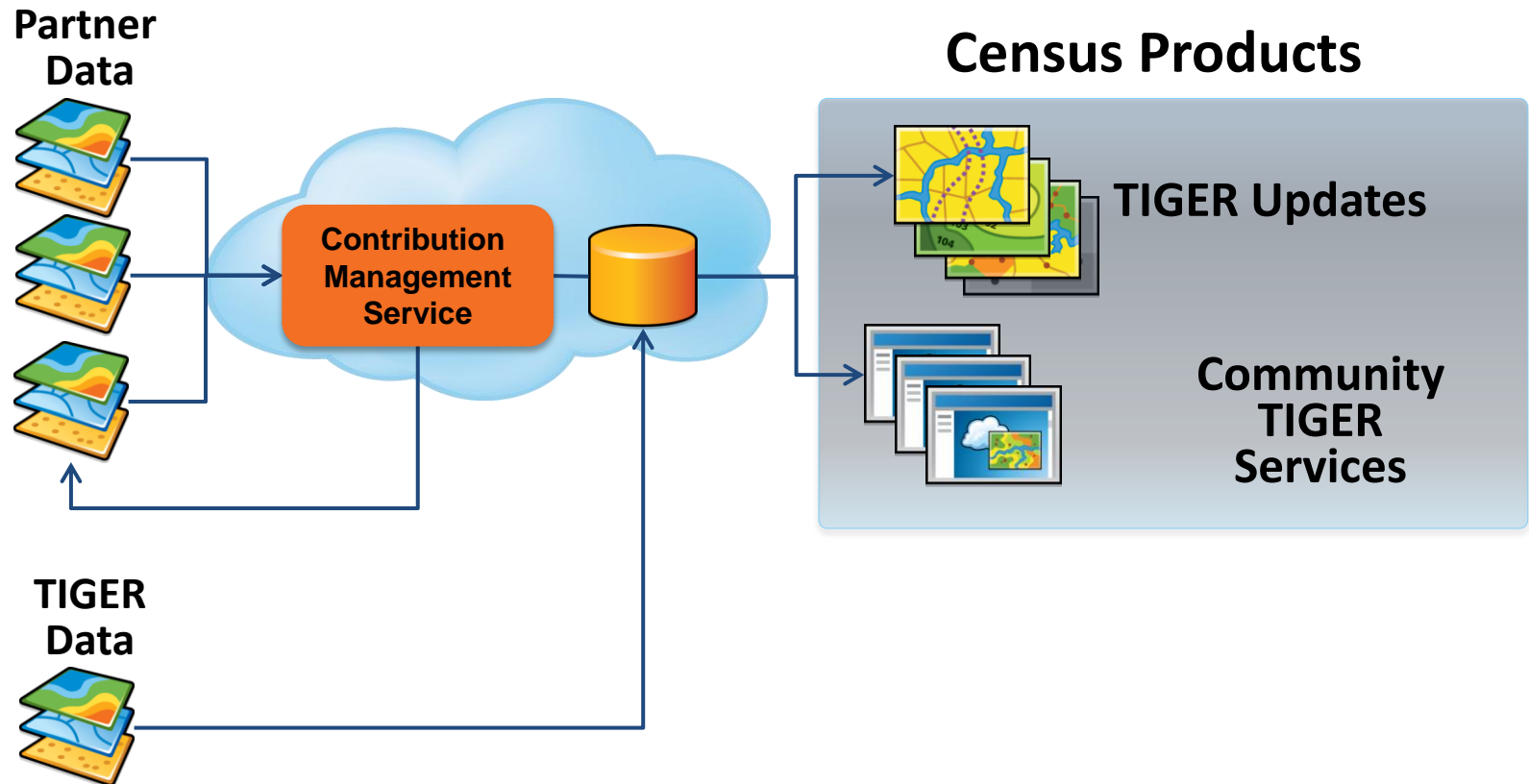
- “Establish partnerships and acquire data from authoritative sources and update”
- Issues
 - Different formats
 - Varying positional and temporal accuracies
 - Inconsistent attribution
 - Over/under coverage
 - No one system solution that allows partner involvement

Community TIGER

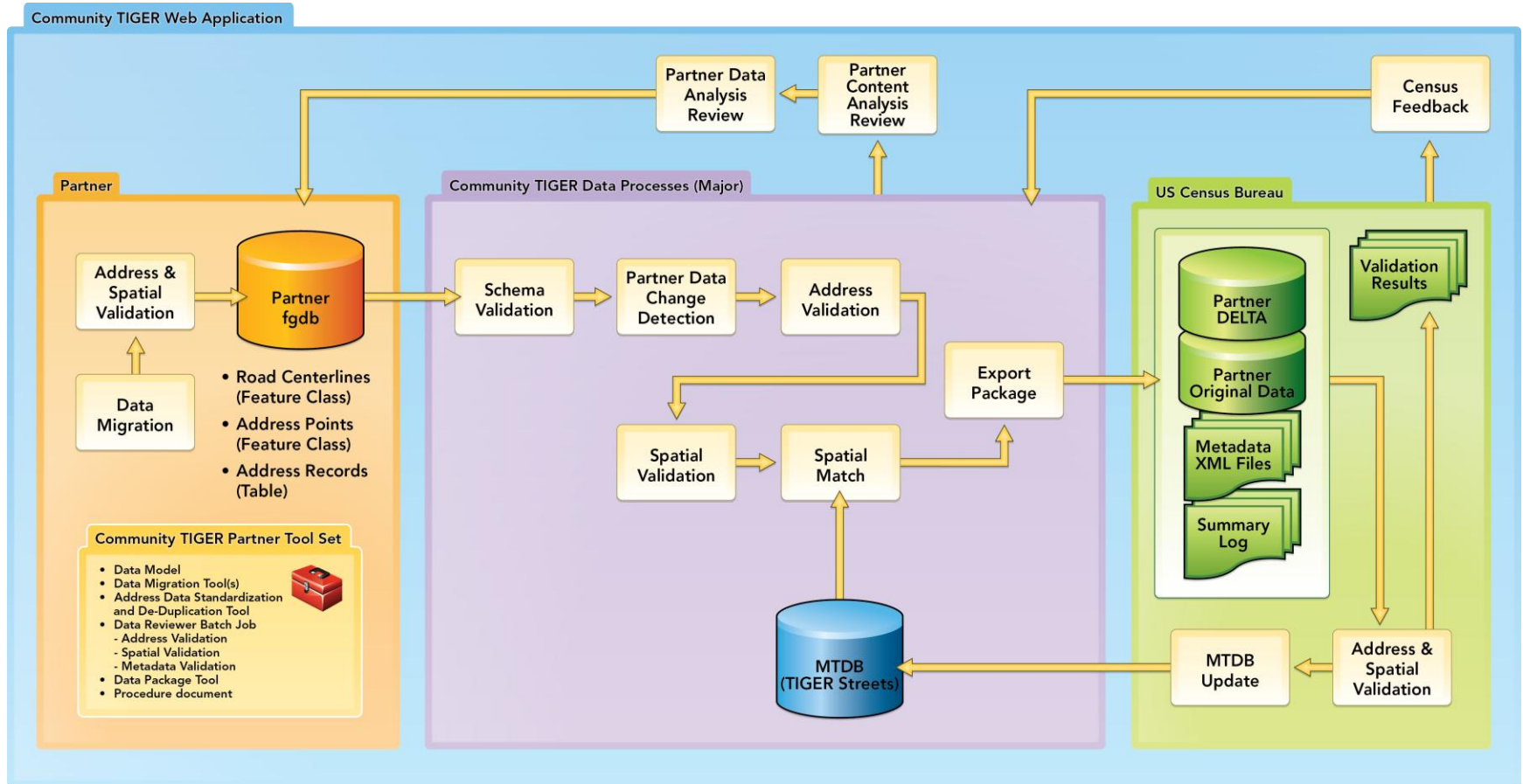


- Proof of Concept collaborative project with Esri
- Web (cloud) based data exchange and data management portal
- Phased and iterative project
- Leverages COTS technology, existing systems and proven workflows
- Utilizes and builds upon the next generation Esri Community Maps

Simplified System Architecture



Community TIGER – Workflow Overview



Community TIGER – Partner Toolbox

Community TIGER Partner Tool Set

- Data Model
- Data Migration Tool(s)
- Address Data Standardization and De-Duplication Tool
- Data Reviewer Batch Job
 - Address Validation
 - Spatial Validation
 - Metadata Validation
- Data Package Tool
- Procedure document



Address Data in Community TIGER

- Benefits of Maintaining Address Data in Community TIGER
- Address Data Guidelines
- Address Data Tools

Benefits of Maintaining Address Data in Community TIGER

- Address data tools that help create, edit, and manage address data are available
- Supports standardized address data through use of the Local Government Data Model
- Ability to potentially enhance address data with geocodes

Address Data Tools

- Address Data Model
- Address Data Migration
- Address Data Standardization and Unduplication
- Address Data Validation

Spatial Data in Community TIGER

- Why share spatial data in Community TIGER?
- Guidelines for sharing spatial data
- Data sharing options

Benefits of Sharing Spatial Data in Community TIGER

- Add new roads and geocode new addresses
- Automated/Interactive tools for authoritative partners to update TIGER anytime
- Faster feedback from the Census Bureau regarding acceptance of feature updates
 - In most cases: Immediate, via software
 - In more complex cases: via review by Census Bureau

Guidelines for Spatial Feature Data

- New Census Bureau Guidelines for sharing Feature Data
- Built into Community TIGER's upload tools as checks
- Community TIGER will initially accept only:
 - Road Centerlines
 - Road Names
 - Address Ranges
- Data Quality Guidelines for:
 - Topology
 - Feature Representation
 - Attribute Content
 - Metadata
- Consistent with FGDC Standards

Spatial Data Sharing Options

- After Data Validation and Spatial Checks, Option to Share Data with:
 - Census Bureau, Community TIGER, Esri Community Maps
 - Census Bureau, Community TIGER
 - Census Bureau

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